

Notice of Allowability

Application No.

09/328,800

Examiner

Fred Ferris

Applicant(s)

ITO ET AL.

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 17 May 2004.
2. ☒ The allowed claim(s) is/are 1,5-9,13-15,20-22 and 24.
3. ☒ The drawings filed on 08 November 1999 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

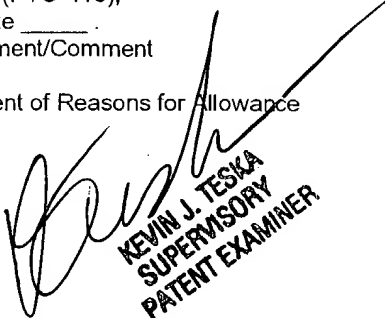
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER

DETAILED ACTION

1. *This Office Action is in response to applicant's amendment filed on 17 May 2004. Claims 1, 5-9, 13-15, 20-22, and 24 are currently pending in this application. The applicants have canceled claims 2-4, 10-12, 16-19 and 23. Claims 1, 5-9, 13-15, 20-22, and 24 have now been allowed over the prior art of record.*

Response to Arguments

2. *Applicants arguments filed on 17 May 2004 have been fully considered.*

Regarding applicant's response to 102(b) rejection: The examiner withdraws the previous 102(b) rejection of claim 13 in view of applicant's amendment to the claims. Claim 16 has been cancelled, hence, the previous 102(b) no longer applies.

Regarding applicant's response the 103(a) rejections: Independent claims 1, 13, 20 and 22 have been amended to distinguish the claimed invention over the prior art of record. Accordingly, the examiner withdraws the 103(a) rejection in view of applicant's amendment to independent claims 1, 13, 20, and 22 and the cancellation of claims 2-4, 10-12, 16-19 and 23.

EXAMINER'S AMENDMENT

3. *An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.*

Authorization for this examiner's amendment was given in a telephone interview with John Mattingly, applicant's representative, on July 20, 2004.

Please **delete** the word "**are**" before the word "mounted" in claim 1, line 20 and insert the following after the word "developed" in claim 1, line 20:

-- which includes core cell logic is --

The text on line 20 of claim 1 should now read, "developed **which includes core cell logic is** mounted on a logic board"..

Also, please amend the following typographical error in line 11 of claim 20:

Following the word "terminal" the word "band" should be the word "**land**".

The text on line 11 of claim 20 should now read, "a terminal **land** for supporting an LSI targeted for"..

Allowable Subject Matter

4. Claims 1, 5-9, 13-15, 20-22, and 24 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

Applicants are disclosing a logic emulation module used for logic verification configured using techniques commonly used in the art for the design of printed circuit modules. These include:

- Connectors for external connections
- Programmable LSI's (programmed logic)
- Switching LSI's (cross point switch)
- Board wiring
- Terminal lands for LSI's
- Printed circuit thru-holes
- Circuit card stacking
- Radiation plates, heat sinks, metal spacers

These features are generally disclosed in the prior art. However, the prior art of record, while disclosing these features, does not meet the conditions as suggested in MPEP section 2132, namely:

*"The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an **ipsissimis verbis** test, i.e., identity of terminology is not required. **In re Bond**, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)."*

In particular, the prior art of record does not disclose the specific arrangement of elements where each programmable LSI's is directly connected to all other programmable LSI's and coupled to all switching LSI's as now recited in independent claims 1, 13, 20, and 22 and as disclosed in applicant's specification page 15, paragraph 3 to page 23, paragraph 2, and in Figures 10, 12-15, in the context of the claims.

The closest prior art uncovered during examination is:

U.S. Patent issued to Ikeda: teaches a programmable logic emulation system (module) constructed of a circuit board having (LSI's) connected via field programmable logic arrays (FPLA) and interconnecting (switching) cross-point-switches (LSI's).

U.S. Patent 5,572,710 issued to Asano: teaches a programmable logic emulation system having programmable logic devices (LSI's) connected via field programmable

logic arrays (FPLA), interconnect (cross-point-switches), and containing connectors for external connection used for logic emulation of equivalent functions and verification.

U.S. Patent 6,016,563 issued to Fleisher: teaches the use of stacking type connectors on emulation modules.

U.S. Patent 6,005,771 issued to Bjorndahl: teaches a multi chip module with integrated circuits and radiation plates on both sides of the module covering the integrated circuits.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 703-305-9670 and whose normal working hours are 8:30am to 5:00pm Monday to Friday.*

Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 703-305-3900.

The Official Fax Numbers are:

Official (703) 872-9306

Fred Ferris, Patent Examiner
Simulation and Emulation, Art Unit 2128
U.S. Patent and Trademark Office
Crystal Park 2, Room 2A22
Crystal City, Virginia 22202

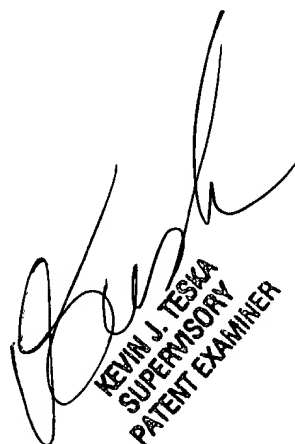
Application/Control Number: 09/328,800

Page 6

Art Unit: 2128

Phone: (703) 305 - 9670
FAX: (703) 305 - 7240
Fred.Ferris@uspto.gov

July 20, 2004



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER